Remarks

Allowance of all claims are respectfully requested in view of the amendments and remarks below. Upon entrance of this amendment, claims 1-4, 6-9, 11-14, 16-19, 21-25, 27-30 &32-40 will remain pending.

By this amendment, independent claims 1, 11, 21 & 22 are amended to recite: (1) that the linkage service selected at compile time comprises an intermediary linkage service routine between the calling program and the callee program; and (2) that the "different machine context organizations" comprise "different register widths" (i.e., the canceled subject matter of dependent claims 10, 20 and 31). These amendments are made pursuant to the Examiner's comments contained in the final Office Action and are well supported by the application as filed. For example, reference figures 4, 5, and 7A-8C, and the discussion thereof. The amendments to the claims constitute a bona fide attempt by applicants to advance prosecution of the application and obtain allowance of certain claims and are in no way meant to acquiesce to the substance of the final rejection. It is believed that the amendments to the claims place the claims in condition for allowance and/or in better form for consideration on appeal. These amendments were not made earlier because the amendments are responsive, in part, to certain comments contained in the final Office Action.

Substantively, claims 1, 6-8, 10, 16-18, 20, 21, 27-29, 31 and 32-40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the System/390 mainframe product from IBM (announced September 5, 1990) illustrated by the "System/390 Announcement" (referred to herein as "System") and the "Principles of Operation: Enterprise Systems Architecture/390" material (referred to herein as ESA), and further in view of Coutant (U.S. Patent No. 6,293,712). In addition, claims 1-4, 6-14, 16-25 and 27-40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over System and ESA, and further in view of Benson (U.S. Patent No. 5,598,560). These rejections are respectfully traversed and reconsideration thereof is requested.

As recited in claim 1, for example, applicants' invention comprises a method for communicating between programs having different machine context organizations. This method includes the process steps of determining, at compile time, which savearea layout of a plurality of savearea layouts is to be used to save information relating to a calling program; and selecting, again at compile time, a linkage service from a plurality of linkage services to be used in communicating between the calling program and a callee program. The "linkage service" selected at compile time from the plurality of linkage services is recited to comprise an intermediary service routine (i.e., program) between the calling program and the callee program. The selecting is based upon the determined savearea layout, and the calling program and the callee program coexist within a single executable module but have different machine context organizations. The "different machine context organizations" are defined in the amended independent claims to mean that the calling program and the callee program employ registers of different widths.

An "obviousness" determination requires an evaluation of whether the prior art taken as a whole would suggest the claimed invention taken as a whole to one of ordinary skill in the art. In evaluating claimed subject matter as a whole, the Federal Circuit has expressly mandated that functional claim language be considered in evaluating a claim relative to the prior art. Applicants respectfully submit that the application of these standards to the independent claims presented herewith leads to the conclusion that the recited subject matter would not have been obvious to one of ordinary skill in the art based upon the System product, the ESA material and the Coutant or Benson patents.

The System product and the ESA material both refer to the same IBM computer system, now referred to as the Enterprise Systems Architecture/390 system. Applicants respectfully submit that a careful reading of this material and an understanding of the ESA/390 System fails to uncover any teaching or suggestion of various aspects of their recited technique for communicating between programs having different machine context organizations.

For example, the Office Action references the second element of applicants' claim 1 and alleges that ESA at page 5-14, left column, third paragraph, teaches this functionality. This is believed to comprise a mischaracterization of the ESA material. Applicants' independent claims recite particular functionality, which includes selecting, at compile time, a linkage service from a plurality of linkage services to be used in communicating between the calling program and a callee program. Further, this selecting is characterized in that the selecting occurs based upon the determined savearea layout, and occurs in an environment where the calling program and the callee program coexist within a single executable module and have different machine context organizations (i.e., registers of different widths). The ESA material at page 5-14 relates to instructions within the machine that enable a transition between a subprogram that operates in 24-bit addressing mode and a subprogram that operates in 31-bit addressing mode. This material is a definition of the machine architecture and the instruction set. The recited language is not relevant to applicants' recited process, which again, occurs at compile time. The ESA material does not relate to the functionality of selecting at compile time a linkage service. The ESA material describes a machine instruction set architecture, which cannot select at compile time. There is simply no concept of compile time in the System product material or the ESA material.

In addition, the amended independent claims presented herewith recite that the "linkage service" that is selected at compile time from the plurality of linkage services comprises an intermediary service routine between the calling program and the callee program. In Applicants' invention, a plurality of such linkage services are provided for use in communicating between the calling and the callee program, with one of the services being selected at compile time, dependent upon the savearea layout selected at compile time for use in saving information related to the calling program. Applicants respectfully submit that no similar functionality is taught or suggested by the System product material or the ESA material, nor would such functionality be inherent therein.

Further, the System product and the ESA material describe a system with a single machine context organization (i.e., single register width). Both the System and the ESA material operate within a 32-bit register size. There is a single set of 32-bit registers in this

machine, and thus, there are not different machine context organizations as the phrase is defined in the independent claims presented. The ESA material at page 5-10 to 5-16 describes modes wherein the machine employs only 24 bits or 31 bits in connection with address generation. However, the width of the registers does not change, and is uniform at 32 bits. Therefore, only a single machine context organization is presented as the term is defined in the independent claims presented.

To summarize, the System product and ESA material both fail to teach or suggest certain functionality recited by applicants in the independent claims. Specifically, the System product and ESA material do not suggest or imply applicants' process of selecting at compile time a linkage service (i.e., an intermediary service routine) from a plurality of linkage services to be used in communicating between the calling program and a callee program, let alone such selecting wherein the calling program and the callee program coexist within a single executable module and have different machine context organizations (i.e., different register widths), nor such selecting wherein the selecting is based upon the determined savearea layout, as recited in their independent claims. For these reasons, applicants respectfully request reconsideration and withdrawal of the obviousness rejections to the independent claims presented.

Both the Coutant patent and the Benson patent are cited in the Office Action for allegedly teaching applicants' process of determining, at compile time, which savearea layout of a plurality of savearea layouts is to be used to save information relating to a calling program. Without acquiescing to the characterization of the teachings of either of these patents, applicants respectfully submit that neither patent teaches or suggests the above-noted deficiencies of the System product and ESA material when applied against the independent claims presented. Neither patent is believed to teach, suggest or imply selecting, at compile time, a linkage service to be used in communicating between a calling program and a callee program, let alone selecting, at compile time, a linkage service from a plurality of linkage services which can be used (wherein the linkage service comprises an intermediary service routine), nor such selecting within an environment wherein the calling program and the callee program coexist within a single executable module and have different machine context

organizations (i.e., different register widths), and wherein the selecting of the linkage service is based upon the savearea layout determined at compile time.

To restate, none of the applied art teaches or suggests the existence of a plurality of linkage services from which a selection is made at compile time of a particular linkage service to be used in communicating between a calling program and a callee program. This linkage service is recited to comprise an intermediary service routine between the calling program and the callee program. No similar functionality is taught or suggested by the applied art. For example, Benson describes a compiler generated linkage sequence wherein prologue and epilogue code is generated in line with the callee program. This is a common approach to establishing communications between a calling program and a callee program. However, in Applicants' invention, because of the different attributes of the calling program and the callee program, Applicants provide a plurality of separate linkage services, one of which is then selected at compile time for use in communicating between a particular calling program and a callee program. This linkage service is recited to comprise an intermediary service routine between the calling program and the callee program.

For the above reasons, applicants respectfully request reconsideration and withdrawal of the obviousness rejections stated in the Office Action. The dependent claims are believed allowable for the same reasons as the independent claims from which they directly or ultimately depend, as well as for their own additional characterizations.

All pending claims are believed to be in condition for allowance and such action is respectfully requested.

Should the Examiner wish to discuss this case with applicants' attorney, the Examiner is invited to contact applicants' representative at the below-listed number.

Respectfully submitted,

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